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Joshua Brackets

A PROSPECT of EXTERMINATING the SMALL-POX ;
BEING
THE HISTORY OF THE VARIOLÆ VACCINÆ,

OR

KINE-POX,

COMMONLY CALLED THE

COW-POX;

AS IT HAS APPEARED IN ENGLAND :

With an Account of a series of Inoculations performed for the
KINE-POX, in MASSACHUSETTS.

BY BENJAMIN WATERHOUSE, M. D.

FELLOW OF THE AMERICAN PHILOS. SOCIETY ; ACAD. ARTS
AND SCIENCES ; MASS. MED. AND ROYAL MED. SOCIE,
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MANCHESTER ; PHILOS. AND LITERARY SOCI-
ETY AT BATH ; AND PROFESSOR OF THE
THEORY AND PRACTICE OF PHYSIC
IN THE UNIVERSITY OF CAM-
BRIDGE.

Facts like these speak so strongly, and so clearly, that reasoning
and argument must be quite superfluous.

. Bishop MADDOX's sermon in favour of Inoculation.

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THE HISTORY OF THE

*KINE-POX,**

COMMONLY CALLED THE

COW-POX.

CHAP. I.

IN the beginning of the year 1799, I received from my friend Dr. LETTSOM of London, a copy of Dr. EDWARD JENNER'S "*inquiry into the causes and effects of the VARIOLÆ VACCINÆ, or Cow-Pox*"; a disease totally unknown in this quarter of the world. On perusing this work, I was struck with the unspeakable advantages that might accrue to this country,

* From *Kine* the plural of cow; thus in the scriptures—"and they took two *milch-kine*—and shut up their *calves* at home;" a word equally expressive, and in the opinion of some, more delicate.

Some in this country as well as in England, after having all their objections obviated, have said, "allowing this *cow* or *kine-pox* to be at present beneficial, can any person say what may be the consequences of introducing a bestial humour into the human frame after a long lapse of years;" Let us push this *wise* observation a little further; and ask "who can tell what may be the consequences, after a long lapse of years, of introducing into the human frame *cow's milk, beef steaks, or a mutton-chop!*"

See RING'S Observations on Dr. MOSELY.

and indeed to the human race at large, from the discovery of a mild distemper that would ever after secure the constitution from that terrible scourge, the small-pox. My attention was not the less awakened by a previous impression that the small-pox came originally from the brute creation ; for all that I could recollect of the history of the famous Mahomet, and his *successor*, and of modern Arabia, conspired to strengthen the idea that the small-pox came to the human race through the brute creation.

DR. GEORGE PEARSON'S book, which I received soon after that of Dr. JENNER'S, confirmed in a satisfactory manner the most important part of JENNER'S doctrine.

As the ordinary mode of communicating even medical discoveries in this country is by news-papers, I drew up the following account of the *cow-pox*, which was printed in the *Columbian Centinel*, March 12th, 1799.

SOMETHING CURIOUS IN THE MEDICAL LINE.

EVERY body has heard of those distempers, accompanied with pocks or pustles, called the *small pox*, the *chicken-pox* and the *swine-pox*, but few have ever heard of the *cow-pox*, or if you like the term better, the *cow small-pox* ; or to express it in technical language, the *variola vaccinae*. There is, however, such

a disease, which has been noticed here and there in several parts of England, more particularly in Gloucestershire, for sixty or seventy years past, but has never been an object of medical inquiry until very lately.

THIS *variola vaccinae* or *cow-pox*, is very readily communicated to those who milk cows infected with it. This malady appears first on the teats of the cows in the form of irregular pustles or pocks.* They are commonly of a palish blue, somewhat approaching to livid, and surrounded by an erysipelatous inflammation, resembling the St. Anthony's fire. These pustles, unless timely remedied, degenerate into those ragged ulcers known by the surgeons under the name of *phagedenic*. The cows soon become sick, and the secretion of milk is lessened, but I never heard of one dying with it. Those who milk cows thus effected, seldom or ever fail catching the distemper, *if there be cracks, wounds, or abrasions in the hands*. That is to say, *they are inoculated*. When infected, there appear on different parts of the hands and wrists, inflamed spots, having the appearance of blisters, produced by burns. These run quickly on to suppuration. These superficial suppurations have a circular form with their edges more elevated than the centre, very much resembling a certain stage of the small-pox. These depressed pustles or pocks, are of a colour approaching to

* See JENNER, p. 3. & 4.

blue. Absorption now takes place, and a soreness and sometimes tumors appear in the arm pits. Then the arterial system becomes affected; the pulse is quickened, and shivering with a general lassitude and pains in the back and limbs supervene, and these symptoms are not unfrequently accompanied with vomiting. There is too, a pain in the head and dizziness. These symptoms varying in their degrees and violence, generally continue from one day to three or four, leaving ulcerated sores about the hands, resembling those on the cows teats, from whence they sprung. The lips, nostrils and eye-lids are sometimes affected with sores, but these evidently arise from their being rubbed or scratched with the patient's infected fingers. This is the common course of the disease with the human species. *No person was ever known to die of this distemper.* But what makes this newly discovered disease so very curious, and so extremely important is, that every person thus affected, is **EVER AFTER SECURED FROM THE ORDINARY SMALL-POX**, *let him be ever so much exposed to the effluvia of it, or let ever so much ripe matter be inserted into the skin by inoculation.* In other words—a person who has undergone the *local* disease and *specific fever* occasioned by the cow-pox infection, is *thereby rendered ever after unsusceptible of the small pox.** It is worthy of remark that the infection of the cow-pox

* See Dr. PEARSON'S publication.

can be conveyed to the human species by the ordinary mode of inoculation. And it is observed, that there is no difference in the effects of the matter taken from the cow, and of the matter generated successively in the second, third, fourth or fifth human creature.

SUCH are the outlines of a mild disease, the knowledge of which may lead to consequences of the utmost importance to the whole human race, no less indeed than that *of superceding, if not extinguishing, that terrible scourge, the small-pox.*

DR. EDWARD JENNER, is the physician in England, who has collected and arranged a series of facts and experiments respecting the disease called there the *cow-pox*. His short work is commented on by Dr. GEORGE PEARSON, physician to St. George's hospital, London.

THIS imperfect sketch is thrown into the news-paper at this time, with a view of exciting the attention of our dairy farmers to such a distemper among their cows. It may also be gratifying to some of the faculty of medicine, who, it is presumed, are not yet generally informed of an *epizootic* disease, capable of being communicated from the brute to the human kind, and which when communicated, is *a certain security against the small-pox*. The public anxiety has been roused of late, to search after the cause of a destruct-

ive fever. Their attention has been directed merely to *effluvia*, *vapours* or *gasses*, while they may here see a disease, the *nearest a kin* to the small-pox of any yet known, which is never communicated by *effluvia*, or medium of the air. It is highly probable that some of the most distressing diseases which afflict mankind, have an *animal* origin; and time may prove, that small-pox, whooping-cough, and one kind of quincy, have like the hydrophobia, a similar source.

Cambridge, March, 12, 1799.

THIS publication shared the fate of most others on new discoveries. A few received it as a very important discovery, highly interesting to humanity; some doubted it; others observed that wise and prudent conduct, which allows them to condemn or applaud, as the event might prove; while a greater number absolutely ridiculed it as one of those medical whims which arise to-day and to-morrow are no more.

AT a meeting of the AMERICAN ACADEMY OF ARTS AND SCIENCES, held a few weeks after, in one of the rooms of this University, I communicated what I knew of this novel distemper, by exhibiting Dr. JENNER's beautiful publication, and recapitulating as many of the most prominent parts of Dr. PEARSON's book as I could recollect, for I had lent and lost the work itself. The reception of this communication was

much to my satisfaction, especially with the ILLUSTRIOUS PRESIDENT, who to a profound erudition in laws and politics, joins a no small knowledge in the science of medicine*.

WHEN this verbal communication was made, I promised to prepare a memoir on the subject by the next quarterly meeting. But before that period arrived, Dr. WOODVILL's publication came to my hands, which I found so entirely to the purpose, that I withheld my memoir, and presented the Academy with the book itself, as containing a chain of experiments and facts, arranged in the form of a table, vastly beyond what I could procure else where. This publication is entitled, "*REPORTS of a series of inoculations for the VARIOLE VACCINÆ, or COW-POX, with remarks and observations on this disease, considered as a substitute for the small-pox, by WILLIAM WOODVILLE, M. D. Physician to the small-pox and Inoculating Hospitals in the city of London.*"

THIS work I found contained just what I wished, a series of experiments, conducted by a learned phy-

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* Left this should ever be read beyond the bounds of this Continent, it will not be superfluous to add here, that THE PRESIDENT OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES IS JOHN ADAMS, PRESIDENT OF THESE UNITED STATES.

fician, long conversant with the casual and inoculated small-pox, in the largest city in the world. The publication bore an additional weight from the opinion given me by Dr. HAYGARTH of the book and of its author ; there being no man now on the stage more thoroughly acquainted with the laws of contagion than Dr. HAYGARTH. From this publication of Dr. WOODVILL's, was formed, in a great measure, my second communication, which I made, like the first, through the medium of a news-paper. It is this which follows :

COW-POX.

THE curiosity of the public has been excited by a newly discovered disease, denominated from its origin, the cow-pox, an account of which I sent you last March. By the history then given, it appeared that this cow-pox pretty exactly resembles the very mildest small-pox from inoculation ; that none had ever died of it, whether man or beast ; and that those who had undergone the cow-pox, were EVER AFTER SECURED FROM THE SMALL-POX, *be they ever so much exposed to the effluviu[m] of it, or ever so much ripe matter inserted into the skin by inoculation ; or in other words, that those persons who had undergone the local disease and specific fever occasioned by the cow-pox infection, are thereby rendered ever after unsusceptible of the small-pox.* Many parents are doubt-

less anxious to know if these assertions are justified by subsequent experiments, and substantiated by a well connected chain of facts. I now send you what information I have gathered from my correspondents in England, and from various publications, especially from one by Dr. WOODVILLE, on this all important subject.

Dr. WOODVILLE is physician to the small-pox and inoculating hospitals in the city of London. It seems, that finding by Dr. JENNER's original publication, that no fatal effects had ever been known to follow from the cow-pox, and that it left the constitution in a state of perfect security from the infection of the small-pox, Dr. WOODVILLE became very anxious to try the effects of inoculating the matter of this new and singular disease; and as trials could be made not only with safety, but also with a prospect to advantage, he conceived it to be a duty that he owed the public in his official situation at the *inoculating hospital*, to embrace the first opportunity of carrying the plan into execution.

He found the disease at a cow-house in Gray's Inn Lane, where there were about 200 cows kept. One of the milkers, named SARAH RICE, had so perfect a specimen of the distemper on her hands, that Dr.

WOODVILLE entertained no doubt of its being the genuine cow-pox. It very much resembled the representation given in the first plate of Dr. JENNER's publication. Dr. WOODVILLE, therefore, in January last, went to that cow-house, in company with Lord SOMERVILLE, Sir JOSEPH BANKS, Sir WILLIAM WATSON, Drs. SIMMONS, PEARSON, WELLAN, and others, and took some of the purulent matter from the teats of the cow, and from SARAH RICE, with which he immediately inoculated seven children, by scratching the skin with the point of a lancet till the instrument became tinged with blood. In the course of three months, Dr. WOODVILLE inoculated two hundred, whose cases he has given in his pamphlet. By the month of May, he had inoculated about six hundred, and has exhibited the result as it regarded the number of pustles, days of illness, &c. in the form of a table. Nearly all those persons *were afterwards inoculated with matter of small-pox, or else exposed to the infection of it in the small-pox hospital, without the least signs of the disease.* The Dr. then points out where these two diseases agree, and in what they differ. The cow-pox, he observes, in every case with which we are as yet acquainted, has been introduced into the human constitution through the medium of *external local inflammation*, and is therefore to be considered as

an *inoculated disease* ; for there are no clear instances of its being received by effluvia, as is the small-pox ; nevertheless its virus seems to affect a similar mode of action, and to be governed by the same laws. Thus, if a person be inoculated alternately with the small-pox matter, and that of the cow-pox every day, till fever is excited, all the inoculations make a progress ; and as soon as the whole system becomes disordered, they appear to be all equally advanced in maturation. It is to be remembered, that the local tumor excited from the inoculation of the cow-pox, is commonly of a different appearance from that which is the consequence of the inoculation with variolous matter. The fluid formed in the cow-pox tumor very rarely becomes puriform, and the scabs which succeed are of a harder texture, and exhibit a smoother surface than the small-pox.*

It is evident from Dr. WOODVILLE's publication, that the matter of the cow-pox has generally produced *much fewer pustles and less indisposition*, than that from the inoculated small-pox ; for it appears from his summary or table, that about two fifths of all the persons inoculated for the cow-pox, *had no pustles at all*, and that in not more than a fourth part of them *was there experienced a perceptible disorder*. But it

* See Dr. WOODVILL's publication.

must at the same time be acknowledged, says Dr. WOODVILLE, that in several instances, the cow-pox has proved a very severe disease. Some had 200, some 300, and some 500, and two had 1000 pustles. One infant at the breast died on the eleventh day after the cow-pox matter had been inserted into its arm. In this solitary fatal case, the local tumor was very slight, and the eruptive symptoms took place on the seventh day, when the child was seized with convulsion fits, which carried it off. The pustles were from 80 to 100. Can we, however, be certain it died in consequence of inoculation? Finally, the instances which have been brought forward to prove, that those who have undergone the cow-pox, resisted the infection of the small-pox, are *unquestionable* and *decisive*, and sufficiently numerous to establish that important fact. This circumstance, then, says Dr. WOODVILLE, appears to be as much a general law of the system, as that a person having had the small-pox is thereby rendered unsusceptible of receiving the disease a second time. For all the patients, says he, whom I have inoculated with variolous matter, after they had passed through the cow-pox, none were affected with the small-pox; and it may be remarked, that nearly a fourth part were so slightly affected with the cow-pox, that it neither produced any perceptible indisposition nor pustles.

I HAVE thought it not improper to throw thus much before the public at this time. We live in the scrutinizing æra of experiment, and we cannot doubt but our brethren in England, will pursue this important subject with an indefatigability, characteristic of the nation, and produce a still longer chain of facts, which seems absolutely necessary before we can all unite in the resolution to discard the inoculation of the small-pox, and adopt that of the cow.

B. WATERHOUSE.

Cambridge, Nov. 15, 1799.

I now found that the brief history which I had given of the origin and progress of this disease made a favorable impression on the minds of the people; for the dread of that terrible scourge the small-pox is still great in America, especially in New-England, as is sufficiently obvious by the numerous laws and regulations for preventing its contagion, and which are all described in my letter to Dr. HAYGARTH, printed in London in the year 1782, and glanced at in several subsequent letters to be found in that gentleman's "*Sketch of a plan to exterminate the casual small pox from Great-Britain, printed at Warrington in 1792, and dedicated, by permission, to the KING.*"

PERCEIVING that this disease began to excite a spirit of enquiry among our literary men, I deemed it of

importance to collect and examine every thing that had or might be published on the subject, and to acquire, from my correspondents in England, every information respecting a distemper so interesting to humanity.

As the great question which the professional public were anxious to have resolved was, *whether a person who had been fairly infected with the genuine cow or KINE-POX, were thereby secured against the small-pox*, I bent all my enquiries to ascertain this point.

It would be superfluous to mention every question I put, and tedious to relate the different answers received. Suffice it for the present to say, that I made my enquiries of physicians living in different parts of Great-Britain, and of those too who were the least sanguine, although most interested in the event; of men, who objected much, and believed slowly, yet have in the end become its most potent advocates. And I do now deliberately declare, that I have received a croud of evidence in confirmation of the doctrine, "that the cow, or kine-pox renders the human frame unsusceptible of the small-pox", too great to be resisted by any mind not perverted by prejudice. In truth, the subject has been traced in England, by those who doubted, until conviction became too strong for argument, and theoretical objections

gave way to stubborn facts. The consequence has been, that THIRTY THOUSAND persons, from two weeks old and upwards, have passed safely through the disease. Dr. JENNER has been particularly noticed by the KING, who gave him permission to dedicate the new edition of his book to him.

BUT distance of space operates on some minds like distance of time. People are not so ready to believe what happened a great while ago, or a great way off. I therefore found it necessary to bring the matter home to us, and to repeat in America the experiments performed on the other side of the Atlantic. I wished also to examine another *important fact*, of which some eminent physicians in London expressed some doubts, and which I myself was anxious to see more firmly established, namely, *whether this new disease, this COW-POX, or KINE-POX, (denominate it which you will) be really not CONTAGIOUS, or catching from one person to another.* And I do now assert, that from all the experiments hitherto made public, it clearly appears, that *this substitute for the small-pox cannot be communicated by any other means than by the actual CONTACT OF MATTER ; or in other words, is not catching from one person to another by effluvia, like the small-pox or measles.* Even the cows do not convey the distemper by effluvia, or when there is a fence or hedge

interposed between them ; and not, says Dr. JENNER, unless they be handled or milked by those who bring the infectious matter with them.*

C H A P. II.

UNDER a serious impression of effecting a public benefit, and conceiving it, moreover, a duty in my official situation in this University, I sent to England for some of the *vaccine* or *cow-pox-matter* for trial. After several fruitless attempts, I obtained some by a short passage from Bristol, and with it I inoculated all the younger part of my family.

THE first of my children that I inoculated, was a boy of five years old, named DANIEL OLIVER WATERHOUSE. I made a slight incision in the usual place for inoculation in the arm, inserted a small portion of the infected thread, and covered it with a sticking-plaster. It exhibited no other appearances than what would have arisen from any other extraneous substance, until the 6th day, when an encreased redness called forth my attention. On the 8th, he complained of pain under the inoculated arm, and on the 9th, the inoculated part exhibited evident signs of vi-

* See JENNER'S "further observations on the VARIOLE VACCINÆ."

fulency. By the 10th, any one, much experienced in the inoculated small-pox, would have pronounced the arm infected. The pain and swelling under his arm went on gradually encreasing, and by the 11th day from inoculation, his febrile symptoms were pretty strongly marked. The sore in the arm proceeded exactly as Drs. JENNER and WOODVILLE describe, and appeared to the eye very like the second plate in Dr. JENNER's elegant publication. In short, the appearance and symptoms of this disease, in the *old* world, and in the *new*, were more completely alike than I expected. From the difference of situation, greater dryness of our atmosphere, and extraordinary heat of the weather, (from 88. to 96. of Farht.) I did expect a greater variation.

THE inoculated part in this boy, was surrounded by an efflorescence which extended from his shoulder to his elbow, which made it necessary to apply some remedies to lessen it; but the "*symptoms*," as they are called, scarcely drew him from his play more than an hour or two; and he went through the disease in so light a manner, as hardly ever to express any marks of peevishness. A piece of true skin was fairly taken out of the arm by the *virus*, the part appearing as if eaten out by a caustic, *a never failing sign of thorough section of the system in the inoculated small-pox.*

SATISFIED with the appearances and symptoms in this boy, I inoculated another of three years of age, with matter taken from his brother's arm, for he had no pustules on his body. He likewise went through the disease in a perfect and very satisfactory manner. This child pursued his amusements with as little interruption as his brother. Then I inoculated a servant boy of about 12 years of age, with some of the infected thread from England. His arm was pretty sore, and his "*symptoms*" pretty severe. He treated himself rather harshly by exercising unnecessarily in the garden, when the weather was extremely hot (Farht. Thermr. 96, in the shade!) and then washing his head and upper parts of his body under the pump, and setting, in short, all rules at defiance, in my absence. Nevertheless, this boy went through the disorder without any other accident than a sore throat and a stiffness of the muscles of the neck, all which soon vanished by the help of a few remedies.

BEING obliged to go from home a few days, I requested my colleague Dr. WARREN, to visit these children. Dr. DANFORTH, as well as some other physicians, came from Boston out of curiosity, and so did several practitioners from the country. I mention this, because it gave rise to a groundless report, that one of the children had so bad an arm that I

thought it prudent to take the advice of some of my brethren upon it.

FROM a full maturated pustle in my little boy of three years old, I inoculated his infant sister, already weaned, of one year. At the same time, and from the same pustle, I inoculated its nursery maid. They both went through the disease with equal regularity. As this woman was the first adult person on whom I had performed the operation, I was more constant in my enquiries, and more careful to note symptoms as they arose. They were very similar to those of the lighter kind from inoculation for the small-pox, viz. a slight dizziness and nausea, watery eyes, chilliness, soreness of the flesh, usually called by the common people in this country, "*bones'-ache*", a general lassitude, transient pains in the region of the stomach, loins and head, with a disinclination to animal food and exercise; yet none of these symptoms were so oppressive as to diminish for a moment her attention to her little charge, whose symptoms, we conjectured, kept pace with those of its nurse.

THIS striking similarity of symptoms has induced some practitioners in this country, as well as some physicians in Great-Britain, to conclude, that the *kine-pox* was only a variety of the small-pox. We

confess they appear to be near a kin; yet some circumstances lead us to conclude them specifically different; for example, we can communicate the vaccine poison to any cow by inoculation, but we cannot give her by any method the small-pox. This is not, however, peculiar to the cow—It is true of every other brute on which the trial has been made; without which provision in nature, the whole human race might again suffer under this terrific scourge!

I ATTEMPTED to inoculate two more of our female domestics, but failed, owing probably to using a new method recommended by an eminent surgeon in London, which was, to pass a needle with an infected thread through the skin, so as to leave the thread in. This, it is probable, underwent an alteration similar to what happens in the operation of *wire-drawing*, where most of the oil and some of the metal are left behind. Then I performed the operation on four gentlemen, one of them a physician, whose symptoms were so nearly alike what I have already related, that I find nothing new to add, excepting that one of them chose to live pretty freely by way of experiment, and whose febrile symptoms, especially the head-ache, were full as much as he could bear and walk about. This convinced me that the *Kine-pox* was a disease not to be trifled with.

C H A P. III.

HAVING thus traced the most important facts respecting the causes and effects of the *kine-pox* up to their source in England, and having confirmed most of them by actual experiment in America, one experiment only remained behind to complete the business. To effect this, I wrote the following letter to Dr. ASPINWALL, physician to the *small-pox hospital* in the neighbourhood of Boston.*

CAMBRIDGE, AUG. 2d, 1800.

DEAR DOCTOR,

YOU have doubtless heard of the newly described disorder, known in England by the name of the *cow-pox*, which so nearly resembles the small-pox, that it is now agreed in Great-Britain, that the former will pass for the latter.

I HAVE collected every thing that has been printed, and all the information I could procure from my correspondents, respecting this distemper, and have been so thoroughly convinced of its importance to humanity, that I have procured some of the vaccine matter, and

* See my account of his hospital, in the 2d vol. of Dr. HAYGARTH'S "sketch and correspondence," printed at Warrington, in England, 1792.

therewith inoculated seven of my family. The inoculation has proceeded in six of them exactly as described by WOODVILLE and JENNER ; but my desire is to confirm the doctrine by having some of them inoculated by you.

I CAN obtain variolous matter, and inoculate them privately, but I wish to do it in the most open and public way possible. As I have imported a new distemper, I conceive that the public have a right to know exactly every step I take in it. I write this, therefore, to enquire whether you will, on philanthropic principles, try the experiment of inoculating some of my children who have already undergone the cow-pox. If you accede to my proposal, I shall consider it as an experiment in which we have co-operated for the good of our fellow-citizens, and relate it as such in the pamphlet I mean to publish on the subject.

I am, &c. &c.

B. W.

HON. WILLIAM ASPINWALL, Esq.

Brookline.

To this letter the Dr. returned a polite answer, assuring me of his readiness to give any assistance in his power, to ascertain *whether the cow-pox would prevent the small-pox* ; observing, that he had at that

time fresh matter that he could depend on, and desiring me to send the children to the hospital for that purpose. Of the three which I offered, the Dr. chose to try the experiment on the boy of 12 years of age, mentioned in page 20, whom he inoculated in my presence by two punctures, and with matter taken that moment from a patient who had it pretty full upon him. He at the same time, inserted an infected thread, and then put him into the hospital, where was one patient with it the natural way. On the 4th day, the Dr. pronounced the *arm* to be infected. It became every hour forer, but in a day or two it dried off, and grew well, without producing the slightest trace of a disease; so that the boy was dismissed from the hospital and returned home the 12th day after the experiment. ONE FACT, in such cases, is worth a thousand arguments.*

It is proper to mention, that there are some circumstances, which if not attended to critically, may bring the inoculation of this recently imported distemper into a temporary disrepute. Dr. JENNER, aware of such an accident, has pointed out the fallacious sources whence a disease imitative of the *variola vaccinae*, or *kine-pox*, may arise, with a view of preventing a spurious disease.

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* Five more of my family, including three of my children, are now in Dr. ASPINWALL's hospital,

Of the sources of spurious cow-pox, he enumerates,
 1st—That arising from pustules on the nipples, or udder of the cow, which pustules contain no specific virus.

2dly—From matter, (although originally possessing the specific virus,) which has suffered a decomposition, either from putrefaction, or from any other cause less obvious to the senses.

3dly—From matter taken from an ulcer in *an advanced stage*, which ulcer arose from a true cow-pox.

He then gives a striking instance, where a practitioner was under the necessity of taking some small-pox-matter from a pustule, which experience since proved, was *advanced too far* to answer the purpose intended, and says that the same may happen in the cow-pox.

He next shews, that when the inoculated part has degenerated into an ulcer, the matter, although it may possess the power of inflaming the patient's arm, is nevertheless, void of that specific virus requisite to produce the genuine disease ; and of course, incapable of securing the human system against the small-pox.

He doubts whether *pure pus*, though contained in a small-pox pustule, is ever capable of producing the small-pox perfectly. “ I have often been foiled, says

“ Dr. JENNER, in my endeavours to communicate
 “ the cow-pox by inoculation. An inflammation will
 “ sometimes succeeds the scratch or puncture, and in
 “ a few days disappears without producing any further
 “ effect. Sometimes it will even produce an ichorous
 “ fluid, and yet the *system* will not be affected. The
 “ same thing, we know, happens in the small-pox.”

THREE or four instances of the kind are recorded to have happened in England. The children were inoculated for the small-pox, and took the disorder. The opposers to the introduction of the kine-pox have *uncandidly* adduced these instances, and they have been repeated in this country, without any explanation, by some who were capable of explaining them.

ANOTHER circumstance, tending to discredit the idea of discarding the small-pox and substituting the kine-pox, is *mixing the two diseases together, and perhaps giving one for the other*, as we presume was done in some of the hospitals in London. A physician of the first rank, wrote thus to the author, in Feb. 1799. “ Dr. W. tells me, that he finds the cow-pox a more serious disease than was at first imagined ; and considering the safety of inoculation, (for small-pox), and the danger of introducing a new disease into the human frame, probably the practice will not increase.”

It was just about the same time, that Dr. SIMS wrote the letter referred to in page 33, so that the flattering prospect of banishing the small-pox forever from Great-Britain, seemed to be obscured for several weeks. But Dr. JENNER, and Mr. R——, a very distinguished surgeon and native of the county where the cow-pox first appeared, undertook to examine how it happened that a distemper so mild in Gloucestershire, should be converted into a pretty severe disease in London. This matter was unravelled, and the end of it appeared to be this : The first subjects inoculated for the kine-pox, were chiefly people maintained as *poor*. They were inoculated at the small-pox hospitals, and several of them for both kinds, small-pox and kine-pox at the same time, or at an interval of a day or two, by way of experiment ; and it is more than probable, says one of my correspondents, that a lancet infected with variolous matter, was used for inoculating for the kine-pox. Be that as it may, it is certain that the patients of a celebrated inoculator, had the disease with greater severity than any other practitioner. In general, the patients had more fever, sorer arms, and more pustules in London, than in the country.* Those of the authors friends who have

* It may be necessary to inform some of our readers, that the people of England call every part of their Island "THE COUNTRY" out of London ; that city being called, by way of pre-eminence, "THE TOWN."

urged him to establish an hospital for the kine-pox, will now see more clearly, the reasons for not following their advice. An hospital might possibly heighten a very mild distemper into a formidable disease.*

AFTER this successful investigation, inoculation for the kine-pox went on with redoubled activity; inso-much, that from the date of Dr. SIMS' letter, to May following, (just about a year) 29,400 persons of all ages, passed through the disease WITHOUT A SINGLE DEATH!

HE who reflects on the difference of the two diseases, the kine and the small-pox, the one contagious, the other not; the one not unfrequently attended with disagreeable consequences, and sometimes fatal, while the other is as little hazardous as the swine or chicken-pox—He, I say, who compares the two diseases and their consequences, will not hesitate a moment in his preference.

“IN constitutions predisposed to scrophula, says Dr. JENNER, how frequently we see the inoculated

* “Dr. JENNER told me, says Dr. LETTSOM, that his patients in the country have rarely more than one pustule. So says Mr. R. who comes from the same neighbourhood. He is fully of opinion that the disease has been mixed at the small-pox hospital, or why should it differ so essentially from the original disease in the country?”

small-pox rouse into activity this distressful maledy. There are many, who, from some peculiarity in the habit, resist the common effects of the small-pox matter *inserted in the skin*, and who are, in consequence, *haunted* through life with the distressing idea of being insecure from subsequent infection. A ready mode, says he, of dissipating anxiety, originating from such a cause, must now appear obvious; for the constitution may at any time be made to feel the febrile attack of the cow-pox.”*

THERE is another circumstance of very great moment to some families, I mean those in which the small-pox *always proves fatal, even under inoculation*. But this can be best enforced and illustrated by the letter of Mr. WALKER, an eminent engraver in London, addressed to the editors of the MEDICAL AND PHYSICAL JOURNAL, accompanied with a coloured engraving, representing the disorder in the arm through all its different stages.†

“ HAVING a son between ten and eleven months old, and the small-pox being in my opposite, as well as my next neighbour’s family, I conceived it so unlikely for my infant to escape the contagion, and having heard of the benign tendency and mildness of

* See JENNER’S inquiry, p. 70. † Vol. 1, p. 118.

the cow-pox, I made it the subject of particular enquiry, and from all I could learn, there had never been known an instance of its proving fatal. On the other hand, *I had experienced the small-pox in my own family, both natural and inoculated, to terminate mortally.* On these considerations, and admitting it should not have the desired effect of a preventative against the small-pox, it would still leave my child in the same situation as others; but if it really were a preservative, as it appears to be in numerous instances, the advantage would be incalculable; and, if encouraged, might in the end even annihilate that dreadful scourge of mankind, the small-pox.

“To encourage others, I transmit my observations, made in the progress of the disorder, accompanied with a drawing, exhibiting the various appearances of the pustules.

“ON Monday, 19th February 1799, the infection was given by Dr. WOODVILLE, in the presence of Dr. WILLAN, by two incisions, &c. &c.” Then follows an account of the appearances (with nine representations colored to the life, by the anxious parent) through the whole disease, which we omit, as they exhibit nothing new or extraordinary; and shall add only the two last paragraphs, which are these:

“ON the 18th March, the whole scab was seperat-

ing all round the edges, and the child was inoculated with variolous matter for the common small-pox, which on this day (March 21st,) is evidently dying away like a simple scratch.

“ DURING the whole time, the child never exhibited any particular symptoms of indisposition, and had so little fever, that it was hardly, if at all, perceptible; he, however seemed by the motion of his arm, to be sensible of a soreness under it; but neither that, nor the eruption affected him so much as to render him cross or peevish, although he cut three teeth during the progress of the disorder.”

London, Rosamond-street, Clerken-
well, 21st March, 1799. }

THE editors of this work, (which is one of the best medical reviews in Europe), make this remark on the above narrative: “ The preceding communication
“ on so interesting a subject, we consider as peculiar-
“ ly valuable, as Mr. WALKER not only shews
“ a mind sufficiently enlightened to give a fair
“ trial to a new method of conquering one of the
“ most dreadful scourges to mankind, but from his
“ professional abilities, also enables us to exhibit the
“ progressive appearances of the cow-pox.” See
Med. and Phys. Journal, vol. 1st. p. 120.

HAVING adduced thus much in favor of this newly

described distemper, it is agreeable to the candor we profess, to inform the reader, that one physician of eminence, and but one in London, has written a letter rather against the practice; I mean Dr. JOHN SIMS. It is grounded on an extract of a letter from "an intelligent gentleman, not of the profession," saying that "there is a gentleman of eminence in the law who has had the cow-pox twice, which he caught by milking his father's cows when a lad. This gentleman was afterwards inoculated for the small-pox, and had it in so great abundance that his life was despaired of. "He describes the cow-pox as the most loathsome of diseases, and adds, that his right arm was in a state of eruption, both the first and second time, from one extremity to the other; the pain was excessive, and his fingers so stiff, he could scarcely move them."—Nay, he speaks of the "abhorrence the disease created in the family." Had this gentleman been of the medical profession, he would have known, at once, that this was not the cow-pox, but an ulceration, similar to what Dr. JENNER mentions in p. 8. & 9. of his 2d part. If this was the cow-pox, it was very different from any ever seen since. It appears pretty clearly, that this gentleman, eminent in the law, was under a mistake. Dr. SIMS's communication is dated Feb. 13th, 1799, and may be seen in the 1st vol. of the MEDICAL AND PHYSICAL JOURNAL In a second letter in the same

volume, which is explanatory and apologetical, he says, he had no intention of declaring himself an enemy to the inoculation of this disease; that his only wish was, to induce the practitioners to pause a little, to obtain more decided experience of its utility, before it should be generally recommended. This letter is dated April 20th, 1799, since which, *decided experience of its utility has been obtained*, and Dr. SIMS is now among the firm advocates for the operation. The reader, however, is entreated to peruse these two letters, because they have been quoted by some who did not advert to their being written at so early a period of the business.

Dr. MOSELY has raised some objections to the practice; but it would be unkind to repeat them at this time. We have glanced at some of his notions in the note at the bottom of our first page. One idea of his, however, we cannot pass over, because that too has been repeated among us. Coming cloathed in the garb of prudence, we must not treat it but respectfully. We allow, say they, that the kine-pox secures the constitution from the small-pox for a short time, because that has been proved; but how do we know it will secure it for a length of time. Dr. MOSELY, says Mr. RING,* expresses a *suspicion*, that the cow-pox

* See Med. and Phys. Journal, vol. 2d, p. 25.

can only render the habit unfusceptible of the small-pox "*for a time.*" "This, observes Mr. R. is refuted by volumes of evidence, and a cloud of witnesses." Persons who repeat this suspicion of Dr. MOSELY, should be informed of the number now living in the western counties of England, who have had the disease from milking cows in the early part of life, and who have resisted every attempt to communicate the small-pox to them after the lapse of 15, 20, 30, and even 50 years and upwards. See the case of SARAH PORTLOCK, who was inoculated ineffectually for the small-pox *twenty seven* years after receiving the infection of the kine-pox from milking cows; of MARY BARGE, *thirty-one* years; of ELIZABETH WYNNE, *thirty-eight* years, and above all, of JOHN PHILLIPS, FIFTY-THREE years after. See also, several cases in the 1st and 2d volumes of the Med. & Phys. Journal.

THIS was one of the most formidable objections made against inoculation for the small-pox, when first practised by Dr. BOYLSTON in Boston, in 1721. Yet the long experience of *eighty years* has now effectually removed every suspicion of the kind.

ALTHOUGH the inoculation for the cow-pox was not received in England, without a degree of caution becoming an enlightened age and people, yet it may be asserted with truth, that nothing has occurred in the

annals of medicine, which has been taken up more generally, received more candidly, or conducted more prudently. And it cannot be supposed, that we Americans shall give it a less candid reception, or examine it less ingenuously.

THE people of New-England, particularly of Boston, set a noble example to their elder brethren of Old-England, in adopting the Turkish practice of inoculation for the small-pox, in 1721. Now, the English, in their turn, lead the way in a practice still more salutiferous. For, although the inoculation which commenced here in 1721, stripped that horrid disease, the small-pox, of more than half its terrors, yet it is the *kine-pox* that will effect its extermination. If, therefore, it be found that the latter is every way an easier, safer and more pleasant distemper, and a perfect security against the former, do not humanity, regard to our country, the dictates of reason, and the precepts of religion, urge us all to unite our efforts to exterminate “ a disease, which has, during the last thousand years, destroyed full a tenth, and probably a larger proportion, of the human race.” To effect so desirable a purpose, I have laboured to collect all the evidence on this important subject, and to lay it before the American public, in so plain and simple a manner, as to require no other preparation for its admission than common sense and an unprejudiced mind.

FINIS.

APPENDIX.

MY PROFESSIONAL ENGAGEMENTS, PARTICULARLY AT THIS SEASON, IN THE UNIVERSITY, RENDERED IT CONVENIENT TO INSERT IN THE NEWS-PAPER THE FOLLOWING GENERAL ANSWER TO A NUMBER OF QUERIES PUT TO ME BY LETTER, AND OTHERWISE, RESPECTING THE NATURE AND INOCULATION OF THE KINE-POX.

1st. **R**ESPECTING its contagion. It appears, by all the observations and experiments hitherto made public, that the disease is not contagious or catching from one person to another. Even the cows do not take it of each other, if an open rail-fence be interposed between them. Dr. W's. children labouring under the disorder, slept through the whole course of it with those not then inoculated for it. "It does not seem possible, (says Dr. JENNER,) for the contagious matter to produce the disease from effluvia, or by any other means than contact; *so that a single individual in a family might at any time receive it without the risk of infecting the rest, or of spreading a distemper that fills a country with terror.*"

2d. RESPECTING diet previous to receiving the disease. Dr. W. had rather inoculate persons in the *pleni-*

tude of health, without the least alteration of diet, or mode of living.

3d. It is difficult to answer the queries respecting the mildness or severity of the disorder. Dr. WATERHOUSE answers generally, that in a vast majority of cases, it is incomparably milder than the inoculated small-pox, and it appears from experiments in England, that it has become milder as it progressed. Thus according to Dr. WOODVILL's last report, out of 310 cases, only 39 had pustules that suppurated; viz. out of the *first* hundred 19 had pustules; out of the *second* 13; and out of the last 110 only 7 had pustules. There have been a few cases, however, where it has proved an heavy disease, the patient being burthened with between 1000 and 1500 pustules. It is presumed, that had such persons been inoculated for the small-pox, they would have died.

4th. As to the best season for receiving the disease. In this region, the season preferred for inoculation of the kine-pox, as well as the small-pox, is from August to November; coolish nights and ripe fruit are pleasant assistants to the inoculator. Very cold weather is unfavorable to the kine-pox. It aggravated the soreness of the arm to that degree in England, that the inoculators were obliged to postpone their operations until warmer weather. Cold, combined with dampness, is worst of all. About a dozen persons passed through the distemper at Cambridge, when the weather was hotter than ever was known there since the use of thermometers.

5th. To those of the faculty who have applied to him by letter *to supply them with matter for inoculation*—he would just observe, that as he has taken much

pains in this business, run no small risk of reputation, as well as of personal feelings, there are *few* he trusts, that will wonder he is anxious to have the matter under his own eye until the practice is more firmly established by the public opinion. Some unsuccessful cases at the beginning, deprived Scotland of the blessings of inoculation for the small-pox for more than 20 years. He hopes this idea will operate as an excuse at present, even in the minds of his *ci-devant* pupils.*

DR. WATERHOUSE informs those who have applied to him out of Cambridge, to inoculate their families, that he declined it only until the disorder had gone fairly through his own family, and until some of them had been inoculated by Dr. ASPINWALL, and otherwise exposed to the small-pox. But having now confirmed his assertion, *that the kine-pox protects the constitution from the infection of the small-pox*, by a fair experiment, he is ready to attend them whenever they choose. Those who live in Boston, may rest assured, that from the proximity of his residence to the capital, he shall make such arrangements as to be able to attend them as punctually as if he resided there.

CAMBRIDGE, Aug. 18, 1800.

* Dr. W is happy to find that every GENTLEMAN of the faculty in Boston and its vicinity, has understood this, and conducted accordingly.

POSTSCRIPT.

ALTHOUGH I am convinced that the KINE-POX is a shorter, safer, and pleasanter disease than the inoculated small-pox even when conducted in the most fortunate manner, yet there is some danger of people conceiving too lightly of it. The inoculation of between fifty and sixty persons of different ages and habits, has taught me, that the KINE-POX requires some care on the part of the patient, as well as attention on that of the physician; and I give it as my decided opinion, that an abstinence from animal food and from stimulating drinks, is as necessary in the inoculation of the KINE as in that of the SMALL-POX. A few examples will illustrate what I wish to convey. Two young gentlemen were rendered somewhat uncomfortable for three or four days in consequence of eating and drinking as usual. One, the least attentive to directions, after walking to, and from Boston in a VERY HOT DAY, had his febrile symptoms very much aggravated. His headache was excruciating, and a slight delirium came on in the evening, with a stricture across the region of the stomach, equal to what we sometimes find in the casual small-pox. Such imprudent conduct might have destroyed him if inoculated for the small-pox. A boy, after eating green-corn, was crammed with fruit, under the absurd idea that RIPE FRUIT CAN HURT NO ONE, so that with the symptoms of KINE-POX was joined a CHOLERA MORBUS. In another boy, the MUMPS appeared about the 4th day, and arrested the infection. I could add some other instances to prove that this new disease, mild and safe as it is, requires more of the physician than merely putting the matter into the arm; but as this treatise is addressed not so much to the PHYSICIAN, as to the COMMON SENSE of all, I purposely avoid professional directions or criticisms.

ERRATUM.

In several places for "PUSTLES," read "PUSTULES."



